CLAIMS

1. A method for measuring the flow speed of a liquid molten metal (1) in an ingot mould (1) equipped with a sliding field electromagnetic brake, characterized in that it consists of: supplying the electromagnetic brake with current, respectively voltage, from at least one constant power source; measuring the voltage, respectively the current, of the power source (31, 32); and extracting the flow speed from the variations of this measurement.

2. The method of claim 1, applied to an electromagnetic brake, at least one inductor (9) of which includes two packs (16, 17) of several conductors in a vertical direction (z), characterized in that it consists of applying, for each conductor, the following relation:

$$\text{grad}V = -i(\omega - vk)A - \rho j,$$

where ω represents the A.C. excitation pulse of the sliding field, $\underline{v}$ represents the metal speed, $\underline{k}$ represents the wave number of the inductive sliding magnetic field, A represents the vector potential, ρ represents the resistivity of the metal, j represents the density of the excitation current of the conductor, and V represents the voltage across the inductor.

3. The method of claim 1 or 2, characterized in that the speed measurement is used to servocontrol the excitation of the inductors (9) into a predetermined value.

4. A method for regulating the continuous casting speed of a molten metal in an ingot mould (1) equipped with a sliding field electromagnetic brake including several inductors (9), characterized in that it consists of: supplying the electromagnetic brake with current, respectively voltage, from at least one constant power source; controlling the voltage or the current of the power source (31, 32) with a measurement of the current or of the voltage in each inductor.

5. A continuous casting installation of the type using a sliding field electromagnetic brake to control the flow of a liquid metal (1) provided by two ports (4) of a nozzle (3),

characterized in that each inductor (9) of the electromagnetic brake is powered by an individual circuit (21); and in that the installation includes means (26, 35, 36) for regulating the supply voltage or current of each inductor to maintain the liquid metal flow speeds balanced between the two ports.

6. The installation of claim 5, characterized in that each supply circuit (21) of each inductor (9) includes its own means (35, 36) for regulating the electromagnetic excitation power of this inductor.

7. The installation of claim 5, characterized in that it includes a central station (26) for controlling the supply circuits (21) of the different inductors (9) to regulate the liquid metal flow speed.